



Bulletin 132-84
December 1984

State of California
The Resources Agency

Department of
Water Resources

Management of the California State Water Project

Appendix D

Costs of Recreation and Fish and Wildlife Enhancement

Gordon K. Van Vleck

Secretary for Resources
The Resources Agency

George Deukmejian

Governor
State of California

David N. Kennedy

Director
Department of Water Resources



ON THE COVER: Wind surfing on Silverwood Lake.

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Water Resources**

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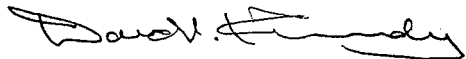
David N. Kennedy
Director

**Department of
Water Resources**

FOREWORD

The Davis-Dolwig Act (Sections 11900-11925 of the California Water Code) declares that providing for the enhancement of fish and wildlife and for recreation in connection with State water projects benefits all of the people of California and that the costs attributable to such enhancement should be borne by them. The Act also provides a procedure through which the Department of Water Resources will be reimbursed for those project costs which are allocated to recreation and fish and wildlife enhancement and for costs of acquiring property for recreation development. The Department is to annually report such expenditures to the Legislature. If the Legislature approves the reported costs, a like amount of the State's tideland oil and gas revenues will be released to the Department from a continuing \$5,000,000 annual appropriation of tideland revenues which has been authorized specifically for that purpose (Public Resources Code Section 6217).

This constitutes the Department's 1984 report to the Legislature in compliance with the above requirement. An additional \$6,988,930 for recreation and fish and wildlife enhancement is reported herein. This amount consists of \$6,549,663 for joint capital costs of the State Water Project which is allocated to recreation and fish and wildlife enhancement, plus \$439,267 for specific recreation land costs. The additional amount is mostly due to costs incurred in 1983 and interest accrued during 1983 on recreation costs not yet reimbursed by the continuing annual appropriation.



David N. Kennedy, Director
Department of Water Resources
The Resources Agency
State of California

State of California
GEORGE DEUKMEJIAN, Governor

The Resources Agency
GORDON K. VAN VLECK, Secretary for Resources

Department of Water Resources
DAVID N. KENNEDY, Director

ALEX R. CUNNINGHAM
Deputy Director

HOWARD H. EASTIN
Deputy Director

ROBERT E. WHITING
Deputy Director

SALLE S. JANTZ
Assistant Director

ROBERT W. JAMES
Chief Counsel

STATE WATER PROJECT ANALYSIS OFFICE

Lawrence E. Swenson, Chief

This report was prepared under the

direction of

Donald R. Long, Chief, Project Cost Branch

Jesse J. Cason, Chief, Cost Allocation and Repayment Section

by

*Nancy Tagupa, Assoc. Govern. Prog. Analyst
Dorothy Duggan, Assoc. Govern. Prog. Analyst
Shahram Zarafshar, Assistant Engineer
Helen Sugiyama, Senior Stenographer
Virginia Merson, Senior Stenographer*

*Assistance in report preparation,
was provided by*

Earl G. Bingham, Research Writer

and on the basis of records compiled under the direction of

Donald E. Owen, Chief, Division of Land and Right of Way

Donald A. Sandison, Chief, Division of Fiscal Services

Chester M. Winn, Controller

CALIFORNIA WATER COMMISSION

DANIEL M. DOOLEY, Chairperson, Visalia
CLAIR A. HILL, Vice Chairperson, Redding

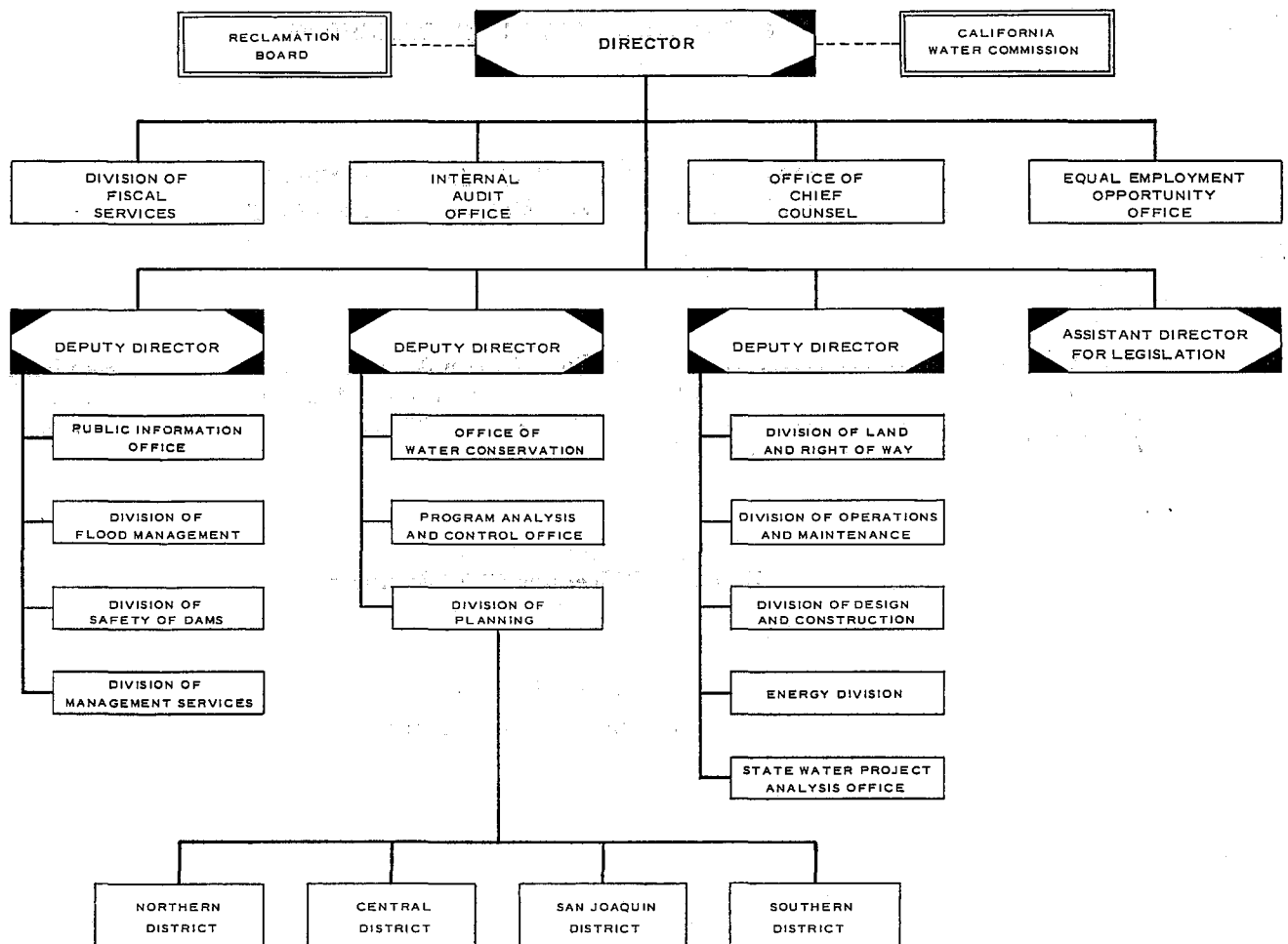
Stanley M. Barnes	Visalia	Martin A. Matich	San Bernardino
Gordon B. Cologne	Rancho Santa Fe	Alexandra C. Stillman	Arcata
Roy E. Dodson	San Diego	Jack G. Thomson	Bakersfield
Merrill R. Goodall	Claremont		

Orville L. Abbott
Executive Officer and Chief Engineer

Tom Y. Fujimoto
Assistant Executive Officer

The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen Commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches of State Government and coordinates Federal, State and local water resources efforts.

ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES



REPORTING OF RECREATION
AND
FISH AND WILDLIFE ENHANCEMENT COSTS

Section 11912 of the California Water Code assigns to the Department of Water Resources (Department) the following responsibilities:

It shall be the duty of the Department to report annually to the Legislature the costs, if any, which the Department has allocated to recreation and fish and wildlife enhancement for each facility of any state water project. The Department shall also report to the Legislature any revisions which the Department makes in such allocations.

The Department shall submit each such cost allocation to the Department of Navigation and Ocean Development (Department of Boating and Waterways), to the Department of Parks and Recreation, and to the Department of Fish and Game. The Department of Navigation and Ocean Development, the Department of Parks and Recreation, and the Department of Fish and Game shall file with the Department of Water Resources their written comments with respect to each such cost allocation, which written comments shall be included in the report required by this section.

It shall also be the duty of the Department to report to the Legislature on any expenditure of funds for acquiring rights-of-way, easements and property pursuant to Section 346 for recreation development associated with such facilities...

This appendix is the Department's 1984 report, as required by Section 11912 of the California Water Code.

For brevity, "fish and wildlife enhancement" is hereafter referred to as "enhancement". The Department's cost allocations treat recreation and enhancement as one combined purpose of the State Water Project.

Organization of Report

The costs of State Water Project facilities the Department has allocated to recreation and enhancement through December 31, 1983 are shown in Table 1, pages 8 and 9. Table 1 also shows the expenditures for acquiring rights of way, easements, and property for recreation development associated with such facilities. Table 2, on pages 14 and 15, details the accrued interest charges included in the costs shown in Table 1.

The notes to Table 1, pages 10 through 13, explain the Department's procedures for reporting recreation and enhancement costs, describe how the amounts shown in the table are calculated, and reconcile significant changes from costs shown in previous reports.

The costs shown in Table 1 do not reflect new or revised allocations for any facility of the State Water Project. The derivation of allocation percentages indicated for joint capital costs of those multipurpose facilities listed in the upper portion of Table 1 have been described in previous reports. Copies of those descriptions are available on request to the Department.

A summary of allocation percentages is shown on page 16, along with illustrative allocation percentages for facilities not yet reported.

Included at the end of this report are comments by the Department of Boating and Waterways, the Department of Parks and Recreation, and the Department of Fish and Game.

TABLE 1: RECREATION AND ENHANCEMENT
(Reported to the California Legislature in
(in

TYPE OF COSTS, PROJECT FACILITY AND SOURCE OF FUNDS	DISBURSEMENTS							
	1952-1970	1971	1972	1973	1974	1975	1976	1977
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT:(b)								
<u>Frenchman Dam and Lake (78.5%)</u>								
California Water Resources Development Bond Fund	94,563	7,199	1,235	0	0	0	0	0
All other funds	2,430,807	226	1,600	972	1,195	365	916	700
Subtotal	2,525,370	7,425	2,835	972	1,195	365	916	700
<u>Antelope Dam and Lake (100%)</u>								
California Water Resources Development Bond Fund	1,610,473	24,350	1,605	0	0	0	0	0
All other funds	3,935,581	3,028	2,096	1,414	1,806	513	1,731	1,348
Subtotal	4,946,054	27,378	3,701	1,414	1,806	513	1,731	1,348
<u>Grizzly Valley Dam and Lake Davis (99.0%)</u>								
California Water Resources Development Bond Fund	3,991,333	10,025	1,733	0	0	0	0	0
All other funds	523,930	769	2,730	25,193	47,577	88,268	22,116	8,196
Subtotal	4,515,263	10,794	4,463	25,193	47,577	88,268	22,116	8,196
<u>San Luis Dam and Reservoir, O'Neill Forebay and Los Banos Reservoir (3.4%)</u>								
California Water Resources Development Bond Fund	2,009,455	4,940	18,604	-268	-381	-253	-130	-118
All other funds	1,353,608	1,420	5,557	9,347	12,561	11,665	4,870	5,660
Subtotal	3,363,063	6,360	24,161	9,079	12,180	11,412	4,740	5,542
<u>California Aqueduct, Delta to Dos Amigos P.P. (3.4%)</u>								
California Water Resources Development Bond Fund	4,447,280	16,390	4,027	-30	0	0	0	0
All other funds	711,037	3,146	6,745	7,861	12,243	21,602	38,409	15,453
Subtotal	5,158,317	19,536	10,772	7,831	12,243	21,602	38,409	15,453
<u>Oroville Division (2.9%)</u>								
California Water Resources Development Bond Fund	5,712,583	7,843	4,661	-37	-42	-18	-15	-15
All other funds	3,288,307	5,329	10,773	23,796	26,184	28,467	28,087	515,025
Subtotal	9,000,890	13,172	15,434	23,759	26,102	28,449	28,072	515,010
<u>Del Valle Dam and Lake Del Valle (48.0%)</u>								
California Water Resources Development Bond Fund	10,482,666	23,248	40,248	0	0	0	0	0
All other funds	2,141,158	2,700	6,681	9,614	115,645	7,835	9,976	3,656
Subtotal	12,623,824	25,948	46,929	9,614	115,645	7,835	9,976	3,656
<u>California Aqueduct, Dos Amigos P.P. to Termini (5.7%)</u>								
California Water Resources Development Bond Fund	37,913,261	7,815,230	2,934,889	-2,130	-38,892	131	59	57
All other funds	16,438,574	1,848,310	1,314,465	2,719,794	1,466,020	1,238,092	974,102	830,248
Subtotal	54,351,835	9,663,540	4,249,354	2,717,664	1,427,128	1,238,223	974,161	830,305
TOTAL	96,486,616	9,774,153	4,357,649	2,795,526	1,643,876	1,396,667	1,080,121	1,380,210
SPECIFIC COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT:(c)								
<u>Frenchman Dam and Lake</u>								
California Water Resources Development Bond Fund	3,271	108	0	0	0	0	0	0
All other funds	49,940	7	0	0	0	0	0	0
Subtotal	53,211	115	0	0	0	0	0	0
<u>Grizzly Valley Dam and Lake Davis</u>								
California Water Resources Development Bond Fund	203,773	343	0	0	0	0	0	0
All other funds	5,246	0	0	0	0	0	0	0
Subtotal	209,019	343	0	0	0	0	0	0
<u>Abbey Bridge Dam and Reservoir</u>								
California Water Resources Development Bond Fund	9	0	0	0	0	0	0	0
All other funds	9,921	0	0	0	0	0	0	0
Subtotal	9,930	0	0	0	0	0	0	0
<u>San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir</u>								
California Water Resources Development Bond Fund	276,627	1,965	116,692	0	0	0	0	0
All other funds	230,629	470	-42,537	19,102	118	508	692	729
Subtotal	507,256	2,435	74,155	19,102	118	508	692	729
<u>California Aqueduct, Delta to Dos Amigos P.P.</u>								
California Water Resources Development Bond Fund	469,930	-9,735	891	0	0	0	0	0
All other funds	106,690	1,117	180	83	113	349	888	617
Subtotal	576,620	-8,618	1,071	83	113	349	888	617
<u>Oroville Division</u>								
California Water Resources Development Bond Fund	7,800,838	10,135	-753	-74	-87	-53	-45	-45
All other funds	328,977	4,437	3,347	488	1,015	-3,762	1,880	1,637
Subtotal	8,129,815	14,572	2,594	414	928	-3,815	1,835	1,592
<u>Del Valle Dam and Lake Del Valle</u>								
California Water Resources Development Bond Fund	518,786	600	39	0	0	0	0	0
All other funds	-41,824	159	758	2,017	820	403	44	88
Subtotal	476,962	759	797	2,017	820	403	44	88
<u>California Aqueduct, Dos Amigos P.P. to Termini</u>								
California Water Resources Development Bond Fund	497,540	-8,356	-9,633	-580	0	0	0	0
All other funds	27,369	2,960	10,337	2,876	1,666	11,095	123	561
Subtotal	524,909	-5,396	704	2,296	1,666	11,095	123	561
<u>Cavale Dam and Lake</u>								
California Water Resources Development Bond Fund	1,954,939	20,228	-17,551	-2,978	-232	-109	0	0
All other funds	66,121	7,810	68,430	28,270	6,550	89,836	10,841	18,589
Subtotal	2,021,060	28,038	50,879	25,292	6,318	89,727	10,841	18,589
<u>Cedar Springs Dam and Silverwood Lake</u>								
California Water Resources Development Bond Fund	387,162	19,958	18,171	-325	0	0	0	0
All other funds	179,887	-12,302	29,654	13,511	28,987	11,865	5,739	2,528
Subtotal	567,049	7,656	47,825	13,186	28,987	11,865	5,739	2,528
<u>Perris Dam and Lake Perris</u>								
California Water Resources Development Bond Fund	1,114,538	7,776	-94,825	-5,176	0	0	0	0
All other funds	3,622,237	7,776	84,874	20,464	8,922	32,890	15	0
Subtotal	4,736,775	15,552	-9,951	15,288	8,922	32,890	15	0
TOTAL	17,812,626	47,680	168,074	77,678	47,872	143,022	20,177	24,704
TOTAL RECREATION AND ENHANCEMENT COSTS								
California Water Resources Development Bond Fund	78,889,427	7,952,247	3,020,033	-11,598	-39,634	-302	-131	-121
All other funds	35,409,815	1,869,586	1,505,690	2,884,802	1,731,382	1,539,991	1,100,429	1,405,035
GRAND TOTAL	114,299,242	9,821,833	4,525,723	2,873,204	1,691,748	1,539,689	1,100,298	1,404,914

Footnotes a-f are presented on pages 10 through 13.

COST OF THE STATE WATER PROJECT (a)
Response to Water Code Section 11912)
dollars)

BY CALENDAR YEAR						Total Disbursement Thru 1983	Add: Interest Accruals Thru 1983	Total Costs Reported Thru 1983	Comparison with Costs Previously Reported	
1978	1979	1980	1981	1982	1983				Thru 1982	Increase
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
0	0	0	0	0	0	102,997	1,803	104,800	104,800	0
10,531	9,278	56,964	13,705	69,333	64,116	2,660,708	0	2,660,708	2,596,692	64,016
10,531	9,278	56,964	13,705	69,333	64,116	2,763,705	1,803	2,765,508	2,701,492	64,016
0	0	0	0	0	0	1,036,428	98,396	1,134,824	1,134,824	0
18,514	16,099	61,303	4,516	88,707	41,042	4,177,698	0	4,177,698	4,181,183	36,515
18,514	16,099	61,303	4,516	88,707	41,042	5,214,126	98,396	5,312,522	5,276,007	36,515
0	0	0	0	0	0	4,003,091	417,923	4,421,014	4,421,016	-2
78,429	45,880	92,354	10,325	51,094	27,714	1,024,575	0	1,024,575	990,636	33,939
78,429	45,880	92,354	10,325	51,094	27,714	5,027,666	417,923	5,445,589	5,411,652	33,937
-56	0	-2,078	-1,419	-35,271	-16,691	1,976,334	282,907	2,259,241	2,275,795	-16,554
-22,713	-2,289	19,269	8,384	281,982	135,821	1,825,142	0	1,825,142	1,688,980	136,162
-22,769	-2,289	17,191	6,965	246,711	119,130	3,801,476	282,907	4,084,383	3,964,775	119,608
0	0	0	0	0	0	4,467,667	749,756	5,217,423	5,217,409	14
19,999	32,771	28,506	194,715	145,465	58,120	1,296,072	0	1,296,072	1,237,842	58,230
19,999	32,771	28,506	194,715	145,465	58,120	5,763,739	749,756	6,513,495	6,455,251	58,244
-19	-23	-27	-29	-28	-9	5,725,225	1,725,255	7,450,480	7,450,488	-8
83,103	52,177	28,974	18,411	14,311	18,200	4,152,704	0	4,152,704	4,217,530	-74,826
83,084	52,154	28,947	18,382	14,283	18,191	9,667,929	1,725,255	11,593,184	11,668,018	-74,834
0	0	0	0	0	0	10,546,162	5,503,141	16,049,303	16,049,297	6
9,324	33,333	35,871	23,936	24,538	76,385	2,500,652	0	2,500,652	2,423,853	76,799
9,324	33,333	35,871	23,936	24,538	76,385	13,046,814	5,503,141	18,549,955	18,473,150	76,805
-1,440	-155	3,473	2,382	59,122	27,980	48,713,967	44,043,306	92,757,273	88,842,899	3,914,374
853,961	1,602,475	2,286,613	1,979,749	3,108,959	2,313,539	38,984,901	0	38,984,901	36,663,903	2,320,998
862,521	1,602,320	2,290,086	1,982,131	3,168,081	2,341,519	87,698,868	44,043,306	131,742,174	125,506,802	6,235,372
1,059,633	1,789,546	2,611,222	2,254,675	3,808,212	2,746,217	133,184,323	52,822,487	186,006,810	179,457,147	6,549,663
0	0	0	0	0	0	3,379	134	3,513	3,513	0
0	0	0	0	0	0	59,947	0	59,947	59,947	0
0	0	0	0	0	0	53,326	134	53,460	53,460	0
0	0	0	0	0	0	204,116	15,099	219,215	219,215	0
0	2,648	56,918	76,931	451,824	2,792	596,359	0	596,359	192,565	403,794
0	2,648	56,918	76,931	451,824	2,792	800,475	15,099	815,574	411,780	403,794
0	0	0	0	0	0	9	0	9	9	0
0	0	0	0	0	0	9,921	0	9,921	9,921	0
0	0	0	0	0	0	9,930	0	9,930	9,930	0
0	0	0	0	0	0	395,284	28,823	424,107	424,100	7
1,075	56,049	126	107	279	136	267,483	0	267,483	267,289	194
1,075	56,049	126	107	279	136	662,767	28,823	691,590	691,389	201
0	0	0	0	0	0	461,086	134,710	595,796	595,796	0
978	21,952	43,344	11,276	44,999	11,721	244,307	0	244,307	223,823	20,484
978	21,952	43,344	11,276	44,999	11,721	705,393	134,710	840,103	819,619	20,484
-57	-69	-81	-88	-87	-26	7,809,508	3,015,076	10,824,584	10,824,645	-61
101,283	1,313	1,853	1,032	20,234	27,703	491,437	0	491,437	450,241	41,196
101,226	1,244	1,772	944	20,147	27,677	8,300,945	3,015,076	11,316,021	11,274,886	41,135
0	0	0	0	0	0	519,425	371,947	891,372	891,372	0
707	262	389	314	293	330	-35,220	0	-35,220	-35,595	375
707	262	389	314	293	330	484,205	371,947	856,152	855,777	375
0	0	0	0	0	0	478,971	327,881	806,852	806,852	0
33,357	274,051	125,515	3,826	-11,972	-14,242	467,522	0	467,522	504,999	-37,477
33,357	274,051	125,515	3,826	-11,972	-14,242	946,493	327,881	1,274,374	1,311,851	-37,477
0	0	0	0	0	0	1,954,297	1,438,071	3,392,368	3,392,373	-5
49,662	113,056	469,435	9,173	3,361	5,785	946,919	0	946,919	940,347	6,572
49,662	113,056	469,435	9,173	3,361	5,785	2,901,216	1,438,071	4,339,287	4,332,720	6,567
0	0	0	0	0	0	424,966	324,405	749,371	749,355	16
8,402	15,953	56,905	3,145	7,537	2,812	354,623	0	354,623	350,544	4,079
8,402	15,953	56,905	3,145	7,537	2,812	779,589	324,405	1,103,994	1,099,899	4,095
0	0	0	0	0	0	1,022,313	832,393	1,854,706	1,854,334	372
84,460	206,806	879,590	0	-279	0	4,939,979	0	4,939,979	4,940,258	-279
84,460	206,806	879,590	0	-279	0	5,962,292	832,393	6,794,685	6,794,592	93
279,867	692,021	1,633,994	105,716	516,189	37,011	21,606,631	6,488,539	28,095,170	27,655,903	439,267
-1,572	-247	1,287	846	23,736	11,254	89,845,225	59,311,026	149,156,251	145,258,092	3,898,159
1,341,072	2,481,814	4,243,929	2,359,545	4,300,665	2,771,974	64,945,729	0	64,945,729	61,854,958	3,090,771
1,339,500	2,481,567	4,245,216	2,360,391	4,324,401	2,783,228	154,790,954	59,311,026	214,101,980	207,113,050	6,988,930

Notes to Table 1, Pages 8 and 9

a) Recreation and enhancement costs refer only to (1) multipurpose facility capital costs allocated to recreation, and (2) the capital costs of lands acquired for associated recreation development. These costs are budgeted by the Department of Water Resources from funds that are available for

financing Project construction costs.

The remaining recreation and enhancement costs not reported in Table 1 are budgeted by several State departments. These costs, financed by appropriations from a variety of funds, are summarized as follows:

Type of Recreation and Enhancement Costs Not Reported in Table 1	General Fund Appropriations, unless otherwise noted		
	1984-85 ^(a)	1983-84 ^(b)	Total 1962-63, thru 1984-85 ^(c)
Allocated operation, maintenance, power and replacement costs of multipurpose facilities	\$ 0 ^(d)	\$ 0 ^(d)	\$16,735,000
Capital costs of recreation developments other than for land acquisition	\$1,142,000	\$3,376,000	\$98,729,000 ^(e,f)
Operation, maintenance, and replacement costs of recreation developments	\$6,848,000	\$6,466,000	\$58,356,000

a) Proposed amounts in Governor's budget.
b) 1983-84 budgeted amount.
c) Actual through 1982-83 plus a) and b)
d) The cost allocation for the California Aqueduct reported in Appendix D to Bulletin 132-80 resulted in general funds being overcollected in past years. The budgeted amounts for 1981-82, 1982-83, and 1983-84 reflect a credit equal to the amounts which the Department otherwise would have budgeted from the general fund. Additional credits will be made in the future years until the full amount of the overcollection has been refunded.
e) Amounts from State recreation bond funds and other State and Federal recreation funds.
f) Includes \$1,236,000 from the Harbors and Watercraft Revolving Fund, and \$200,000 directly from the Highway Users Tax Fund.

Allocated operation, maintenance, power, and replacement costs of multipurpose facilities are budgeted by the Department and financed by annual appropriations from the State General Fund. Capital costs (other than land acquisition costs), along with operation, maintenance, and replacement costs of recreation developments, are budgeted by the Department of Parks and Recreation. However, the costs of constructing boating facilities are budgeted by the Department of Boating and Waterways, and the costs of enhancement developments are budgeted by the Department of Fish and Game.

b) Joint capital costs allocated to recreation and enhancement are based on the Department's derivation, for each multipurpose facility, of the percentages of the total joint costs attributable to each included purpose. These derivations are based on the application of conventional cost allocation methods that weigh the estimated costs to be incurred and the benefits to be realized during a 50-year period of analysis. Allocated costs reflect the application of these percentages to the actual capital costs incurred for each facility, as accounted by the Department.

Costs allocated to recreation and enhancement generally are first reported in the year following the year construction of a facility is completed. However, these allocated costs may be subsequently changed by either the adjustment of accounted capital costs or the revision of allocation percentages.

In response to questions raised by the Department of Finance, the Department of Water Resources is reviewing the method and factors supporting the allocations of Project costs for the Oroville Division and the California Aqueduct, Dos Amigos to Termini. The study includes review of Project benefit levels and other factors within

the definition of the Separable Costs-Remaining Benefits allocation method. Before the Department changes the allocations, the Department will seek to reach a consensus on appropriate factors to be used in future reports.

c) Specific costs of acquiring land for recreation development are incurred by the Department under the authority of California Water Code Section 346. The Department purchases recreation land concurrently with other lands needed for multipurpose facilities, in order to (1) decrease the total land costs of the Project and (2) acquire property in an orderly manner. Recreation lands acquired for each Project facility through September 30, 1983 are shown in the following table:

SUMMARY OF RECREATION LAND ACQUISITIONS ^(a)

(in acres)

Project Facility	Acquired (b)	To Be Acquired	Federal Lands ^(c)	Total
Frenchman Lake	719	0	0	719
Antelope Lake	1,342	0	0	1,342
Lake Davis	733	0	0	733
San Luis Reservoir and O'Neill Forebay	2,518	0	0	2,518
Oroville Division	2,993	0	212	3,205
Lake Del Valle	1,206	0	0	1,206
California Aqueduct (excluding reservoirs)	1,834 ^(d)	(e)	0	1,834
Castaic Lake	1,915	0	577	2,492
Silverwood Lake	3,223	0	0	3,223
Lake Perris	<u>4,351</u>	<u>115</u>	<u>0</u>	<u>4,466</u>
Total	20,834	115	789	21,738

- a) Includes recreation lands for only those project facilities with an established recreation land use and acquisition plan.
- b) Costs of acquiring these lands are shown in Table 1.
- c) These lands are presently being leased from the Federal Government at a nominal cost to the State.
- d) Possession and control of a portion of these lands will be transferred to the Department of Fish and Game for use in the Department's Southern California wildlife mitigation program. When the transfer is made, the acreage will be reduced accordingly.
- e) Additional land needs are to be identified by future studies.

The Department reports the annual expenditure of Project funds for acquiring all recreation land in the year following the expenditure. The costs of such lands generally are established when acquired, and they are not affected by allocation percentages for the associated multipurpose Project facility. However, the reported costs of certain lands may be subsequently revised due to (1) receipt of certain revenues (such as federal grants and miscellaneous income from rights of way sales), or (2) modification of the recreation land use plan.

The amounts to be reported in future years will include credits for any reduction in previously reported costs, together with interest income thereon. If recreation land is sold or if grants are received, the amount of the receipt will be reported as a negative cost of the facility in the year received. If recreation land is reclassified as multipurpose Project land, the original purchase price, together with appropriate interest income, will be reported as a negative expenditure for specific land costs, and an appropriate amount will be added to joint capital costs allocated to recreation and enhancement for the associated facility.

The costs of acquiring land for recreation development reported herein include about \$1.1 million for land that will be used to mitigate impacts to wildlife habitat in Southern California resulting from construction of the State Water Project. As these lands are redesignated from recreation to Project (wildlife mitigation) purposes, the amounts to be reported in future years will include credits for the reduction in previously reported costs,

together with appropriate interest income thereon.

The costs of acquiring recreation land also include the salaries of Department personnel engaged in recreation land acquisition activities, together with indirect costs distributed on the basis of direct salaries.

d) Interest accruals are calculated as shown in Table 2. Interest charges are accrued only on the portion of annual disbursements financed by the California Water Resources Development Bond Fund (proceeds from the sale of Burns-Porter bonds) and cease when such disbursements, together with cumulative interest accruals thereon, have been reimbursed. Calculations are based on the weighted average interest costs of Burns-Porter bonds sold to date (4.378 percent for the \$1.57 billion in bonds outstanding on December 31, 1983). This rate differs from the "Project Interest Rate" under Project water supply contracts, in that interest costs on revenue bond sales are not included.

As of December 31, 1983, a total of \$80 million had been reimbursed to the Department under the continuing annual \$5 million appropriation (through fiscal year 1981-82) of State tideland oil and gas revenues, authorized by California Statutes of 1966, First Extraordinary Session, Chapter 27. With no allowance for future interest, reimbursement of the increased costs reported herein would cover the annual appropriations in the full amounts for each fiscal year through fiscal year 2009-10 together with \$4,101,980 of the appropriation for 2010-11. With future

interest computed at 4.378 percent, reimbursement of the costs reported herein would be covered by appropriations in the full amounts for each fiscal year through 2030-31 together with \$642,493 of the appropriation for 2031-2032.

e) Costs previously reported are as shown in Table 1 (pages 8 and 9) of Appendix D to Bulletin 132-83. Such costs were based on the Department's accounting records as of December 31, 1982. The average interest cost on Burns-Porter bond sales was then 4.378 percent.

f) Reasons for cost increases are outlined below:

- o Additional disbursements during 1983 for recreation lands and for joint capital costs allocated to recreation and enhancement ...
.....\$2,783,000
- o Additional accrued interest on recreation costs not yet reimbursed by the continuing \$5 million annual appropriation due to changes in bond fund expenditures and an additional year of accrual (1983)
.....\$3,888,000
- o Adjustment in previously reported Oroville Division costs allocated to recreation for 1981 and 1982 for redesignation of land parcels from recreation to project ...
.....\$ -80,000
- o Adjustment in 1982 costs for acquisition of parcels and consulting board work for Grizzly Valley Dam and Lake Davis
.....\$ 407,000
- o Adjustment in costs of the California Aqueduct for transfer of Perris Visitors Center to the Department of Parks and Recreation partially offset by costs of right of way activities
.....\$ -8,000
- o Other retroactive accounting adjustments or costs reported prior to 1983.....\$ -1,000

TOTAL INCREASE\$ 6,989,000

TABLE 2: CALCULATION OF INTEREST ACCRUALS ON CALIFORNIA

(in dollars)

JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT										
Year	Item	Frenchman Dam and Lake	Antelope Dam and Lake	Grizzly Valley Dam and Lake Davis	San Luis Dam and Reservoir, O'Neill Forebay and Los Banos Reservoir	California Aqueduct Delta to Dos Amigos P.P.	Oroville Division	Del Valle Dam and Lake Del Valle	California Aqueduct Dos Amigos P.P. Termini	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952- 1979	a. Disbursements									
	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,091	2,031,793	4,467,667	5,725,318	10,546,162	48,021,010	76,534,466
	2. All other funds	2,456,590	3,982,130	843,088	1,379,686	869,266	4,062,808	2,339,922	29,296,041	45,229,531
	b. Reimbursement 1967 through 1979 applied to:									
	1. Calif. Water Resources Development Bond Fund	104,800	1,134,824	4,421,014	2,317,415	5,217,423	7,450,575	16,047,991	0	36,694,042
	2. All other funds	2,456,590	3,982,130	843,088	1,379,686	869,266	4,062,808	2,339,922	0	15,933,490
	c. Interest accrued to end of 1979	1,803	98,396	417,923	285,622	749,756	1,725,257	5,503,112	29,443,098	38,224,967
1980	d. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	1,283	78,064,108	78,065,391
	2. All other funds	0	0	0	0	0	0	0	29,296,041	29,296,041
	e. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-2,078	0	-27	0	3,473	1,368
	2. All other funds	56,964	61,303	92,354	19,269	28,506	26,974	35,871	2,286,613	2,609,854
	f. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-2,078	0	-27	1,283	0	-822
	2. All other funds	56,964	61,303	92,354	19,269	28,506	28,974	35,871	0	323,241
	g. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	78,067,581	78,067,581
	2. All other funds	0	0	0	0	0	0	0	31,582,654	31,582,654
	h. Interest accrual on average balance of d(1) and g(1)	0	0	0	0	0	0	28	3,417,723	3,417,751
1981	i. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	28	81,485,304	81,485,332
	2. All other funds	0	0	0	0	0	0	0	31,582,654	31,582,654
	j. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,419	0	-29	0	2,382	934
	2. All other funds	13,705	4,516	10,325	8,384	194,715	18,411	23,936	1,979,749	2,253,741
	k. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-1,419	0	-29	28	0	-1,420
	2. All other funds	13,705	4,516	10,325	8,384	194,715	18,411	23,936	0	273,992
	l. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	81,487,686	81,487,686
	2. All other funds	0	0	0	0	0	0	0	33,562,403	33,562,403
	m. Interest accrual on average balance of i(1) and l(1)	0	0	0	0	0	0	1	3,567,479	3,567,480
1982	n. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	1	85,055,165	85,055,166
	2. All other funds	0	0	0	0	0	0	0	33,562,403	33,562,403
	o. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-35,271	0	-28	0	59,122	23,823
	2. All other funds	69,333	88,707	51,094	281,982	145,465	14,311	24,538	3,108,959	3,784,389
	p. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	0	0
	2. All other funds	0	0	0	0	0	0	0	0	0
	q. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-35,271	0	-28	1	85,114,287	85,078,989
	2. All other funds	69,333	88,707	51,094	281,982	145,465	14,311	24,538	36,671,362	37,346,792
	r. Interest accrual on average balance of n(1) and q(1)	0	0	0	-772	0	-1	0	3,725,009	3,724,236
1983	s. Beginning-of-year balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-36,043	0	-29	1	88,839,296	88,803,225
	2. All other funds	69,333	86,707	51,094	281,982	145,465	14,311	24,538	36,671,362	37,346,792
	t. Disbursements during year:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-16,691	0	-9	0	27,980	11,280
	2. All other funds	64,116	41,042	27,714	135,821	58,120	18,200	76,385	2,313,539	2,734,937
	u. Reimbursements during year applied to:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	0	0	0	0	0	0
	2. All other funds	0	0	0	0	0	0	0	0	0
	v. End-of-year balance without interest for:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-52,734	0	-38	1	88,867,276	88,814,505
	2. All other funds	133,449	129,749	78,808	417,803	203,585	32,511	100,923	38,984,901	40,081,729
	w. Interest accrual on average balance of s(1) and v(1)	0	0	0	-1,943	0	-1	0	3,889,997	3,888,053
Summary: 1952- 1983	x. Beginning of 1984 balance to be reimbursed:									
	1. Calif. Water Resources Development Bond Fund	0	0	0	-54,677	0	-39	1	92,757,273	92,702,558
	2. All other funds	133,449	129,749	78,808	417,803	203,585	32,511	100,923	38,984,901	40,081,729
	Total	133,449	129,749	78,808	363,126	203,585	32,472	100,924	131,742,174	132,784,287
	y. Disbursements, 1952 through 1983:									
	1. Calif. Water Resources Development Bond Fund	102,997	1,036,428	4,003,091	1,976,334	4,467,667	5,725,225	10,546,162	48,713,967	76,571,871
	2. All other funds	2,660,708	4,177,698	1,024,575	1,825,142	1,296,072	4,142,704	2,500,652	38,984,901	56,612,452
	Total	2,763,705	5,214,126	5,027,666	3,801,476	5,763,739	9,867,929	13,046,814	87,698,868	133,184,323
	z. Reimbursements applied through 1983 to:									
	1. Calif. Water Resources Development Bond Fund	104,800	1,134,824	4,421,014	2,313,918	5,217,423	7,450,519	16,049,302	0	36,691,800
	2. All other funds	2,527,255	4,047,949	945,767	1,407,339	1,092,487	4,110,193	2,339,725	0	16,540,724
	Total	2,632,055	5,182,773	5,366,781	3,721,257	6,309,910	11,560,712	18,449,031	0	53,232,523
	TOTAL INTEREST ACCRUALS, 1952 THROUGH 1983	1,803	98,396	417,923	282,907	749,756	1,725,255	5,503,141	44,043,306	52,822,487

WATER RESOURCES DEVELOPMENT BOND FUND DISBURSEMENTS

@ 4.378% per annum)

COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT												
Frenchman Dam and Lake	Grizzly Valley Dam and Lake Davis	Abbey Bridge Dam and Reservoir	San Luis Dam and Reservoir O'Neill Forebay and Los Banos Reservoir	California Aqueduct Delta to Dos Amigos P.P.	Oroville Division	Del Valle Dam and Lake Del Valle	California Aqueduct Dos Amigos P.P. To Termini	Castaic Dam and Lake	Cedar Springs Dam and Silverwood Lake	Perris Dam and Lake Perris	Total	GRAND TOTAL
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
3,379	204,116	9	395,284	461,086	7,809,790	519,425	478,971	1,954,297	424,966	1,022,313	13,273,636	89,808,102
49,947	7,894	9,921	266,835	132,967	440,615	-36,546	364,395	459,165	284,224	4,060,668	6,040,085	51,269,616
134	15,099	0	28,823	134,710	3,015,082	371,520	327,495	1,416,491	307,979	775,872	6,392,205	44,618,172
0	0	0	0	0	0	19,085	17,275	962,911	732,945	1,798,185	3,530,401	81,595,792
0	0	0	0	0	0	0	0	459,165	284,224	4,060,668	4,864,057	34,100,098
0	0	0	0	0	-81	0	0	0	0	0	-81	1,287
0	56,918	0	126	43,344	1,853	389	125,515	469,435	-56,905	879,590	1,634,075	4,243,929
0	0	0	0	0	-81	19,085	17,275	962,911	732,945	1,447,572	3,179,707	3,178,885
0	56,918	0	126	43,344	1,853	389	125,515	928,600	341,129	0	1,497,874	1,821,115
0	0	0	0	0	0	0	0	0	0	350,613	350,613	78,418,194
0	0	0	0	0	0	0	0	0	0	4,940,258	4,940,258	36,522,912
0	0	0	0	0	0	418	378	21,078	16,044	47,037	84,955	3,502,766
0	0	0	0	0	0	418	378	21,078	16,044	397,650	435,568	81,920,900
0	0	0	0	0	0	0	0	0	0	4,940,258	4,940,258	36,522,912
0	0	0	0	0	-88	0	0	0	0	0	-88	846
0	76,931	0	107	11,276	1,032	314	3,826	9,173	3,145	0	105,804	2,359,545
0	0	0	0	-88	0	418	378	21,078	16,044	397,650	435,480	434,060
0	76,931	0	107	11,276	1,032	314	3,826	9,173	3,145	4,186,144	4,291,948	4,565,940
0	0	0	0	0	0	0	0	0	0	0	0	81,487,586
0	0	0	0	0	0	0	0	0	0	754,114	754,114	34,316,517
0	0	0	0	0	0	9	8	461	351	6,705	9,534	3,577,014
0	0	0	0	0	0	9	8	461	351	8,705	9,534	85,064,700
0	0	0	0	0	0	0	0	0	0	754,114	754,114	34,316,517
0	0	0	0	0	-87	0	0	0	0	0	-87	23,736
0	451,824	0	279	44,999	20,234	293	-11,972	3,361	7,537	-279	516,276	4,300,665
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-87	9	8	461	351	8,705	9,447	85,080,436
0	451,824	0	279	44,999	20,234	293	-11,972	3,361	7,537	753,635	1,270,390	38,617,182
0	0	0	0	0	-2	0	0	20	15	381	414	3,724,600
0	0	0	0	0	-89	9	8	481	366	9,086	9,861	88,813,086
0	451,824	0	279	44,999	20,234	293	-11,972	3,361	7,537	753,835	1,270,390	38,617,182
0	0	0	0	0	-26	0	0	0	0	0	-26	11,254
0	2,792	0	136	11,721	27,103	330	-14,242	5,785	2,812	0	27,037	2,771,974
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-115	9	8	481	366	9,086	9,835	88,824,340
0	454,616	0	415	50,720	47,937	523	-26,214	9,146	10,349	753,835	1,307,427	41,389,150
0	0	0	0	0	-4	0	0	21	16	398	431	3,886,484
0	0	0	0	0	-119	9	8	502	382	9,484	10,266	92,712,824
0	454,616	0	415	56,720	47,927	622	-26,214	9,146	10,349	753,835	1,307,427	41,389,156
0	454,616	0	415	56,720	47,818	632	-26,206	9,048	10,731	763,319	1,317,693	41,389,156
3,379	204,116	9	395,284	461,086	7,809,508	519,425	478,971	1,954,297	424,966	1,022,313	13,273,354	89,845,225
49,947	596,359	9,921	267,483	244,307	491,437	-35,220	467,522	546,619	354,623	4,539,979	8,333,277	64,945,729
53,326	800,475	9,930	662,767	705,393	8,300,945	484,205	946,493	2,901,216	779,589	5,962,292	21,606,631	154,790,954
3,513	219,215	9	424,107	595,796	10,824,703	691,363	806,644	3,391,866	748,989	1,845,222	19,751,627	56,443,427
49,947	141,753	9,921	267,068	187,587	443,500	-35,843	493,736	937,773	344,274	4,186,144	7,025,850	23,556,573
53,460	360,958	9,930	691,175	783,383	11,268,203	655,520	1,300,580	4,329,639	1,093,263	6,031,366	26,777,477	80,000,000
134	15,099	0	28,823	134,710	3,015,076	371,947	327,881	1,438,071	324,405	832,393	6,488,539	59,311,026

Summary of Allocation Percentages

Each year the Department determines water contractor charges for the State Water Project based on allocations of costs among purposes of facilities used for more than a single purpose. These determinations are based on the

percentages previously reported to and approved by the Legislature, as well as preliminary estimates for facilities not yet reported. These percentages are summarized in the following table:

SUMMARY OF COST ALLOCATION PERCENTAGES

(in percent of joint costs of the respective facilities)

Facilities of the State Water Project	Reimbursable Purposes	Nonreimbursable Purposes		Total
	Water Supply and Power Generation	Flood Control	Recreation and Fish and Wildlife Enhancement	
Capital Costs of Features Jointly Used				
<u>Project Conservation Facilities</u>				
Frenchman Dam and Lake ^(a)	21.5	0	78.5	100.0
Antelope Dam and Lake ^(a)	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis ^(a)	1.0	0	99.0	100.0
Oroville Division ^{(a)(b)}	97.1	0	2.9	100.0
California Aqueduct, Delta, to Dos Amigos Pumping Plant ^(a)	96.6	0	3.4	100.0
Delta Facilities ^(c)	86.0	0	14.0	100.0
<u>Project Transportation Facilities</u>				
Grizzly Valley Pipeline	100.0	0	0	100.0
North Bay Aqueduct ^(c)	100.0	0	0	100.0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle ^(a)	25.2	26.8	48.0	100.0
Remainder of South Bay Aqueduct	100.0	0	0	100.0
California Aqueduct:				
California Aqueduct, Delta, to Dos Amigos Pumping Plant ^(a)	96.6	0	3.4	100.0
California Aqueduct, Dos Amigos Pumping Plant to Termini excluding the Coastal Branch ^(a)	94.3	0	5.7	100.0
Coastal Branch	100.0	0	0	100.0
a) Final percentages, subject to review as discussed on Page 11.				
b) Percentages are applicable to Capital Costs of Features Jointly Used, minus Federal Flood Control Payments.				
c) Illustrative percentages only, assumed for current project financial and repayment analyses.				
NOTE: Percentages shown are those applicable to the costs of the facilities as accounted by the State, or, in the case of Federal-State joint-use facilities (San Luis Facilities), only the State's share of the total cost.				

COMMENTS
BY
THE DEPARTMENT OF BOATING AND WATERWAYS,
THE DEPARTMENT OF PARKS AND RECREATION,
AND THE DEPARTMENT OF FISH AND GAME

Memorandum


To : Mr. David N. Kennedy
Director
Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Date : DEC 26 1984

Subject: Annual Report to the
Legislature, State
Water Project Cost
Allocation to Recreation
and Fish and Wildlife
Enhancement.

From : Department of Boating and Waterways

In accordance with California Water Code Section 11912, the Department of Boating and Waterways has reviewed the subject report and we have no comment.


WILLIAM H. IVERS
Director

Memorandum

Date : JAN 8 1985

To : David N. Kennedy, Director A-36
Department of Water Resources

From : Department of Parks and Recreation


Subject: Cost Allocations to Recreation
and Fish and Wildlife Enhancement
State Water Project

We have reviewed your Bulletin 132-84 (Costs of Recreation and Fish and Wildlife Enhancement) Appendix D and have the following comments.

We realize that certain costs are allocated to recreation enhancement, but without an audit cannot verify the figures in Table 1 or the calculations of interest accruals.

We also note that there are charges for acquisition of lands in 1983 at Grizzly Valley, San Luis Reservoir, the California Aqueduct, Lake Oroville, Castaic Lake and Silverwood Lake. Our Acquisition Division is not aware of any more land to acquire at these units.

Since it would take a great deal of research and staff time to verify your allocations, we can only assume that they are correct and will be verified at a later date by an audit.



Wm. S. Briner
Director

Memorandum

To : David N. Kennedy, Director
Department of Water Resources
Room 1115-1

Date: December 27, 1984

From : Department of Fish and Game

Subject: Annual Report to the Legislature, State Water Project Costs of
Recreation and Fish and Wildlife Enhancement

In accordance with California Water Section 11912, you requested our written comments on State Water Project joint costs allocated to recreation, fish and wildlife enhancement, as reported in the review draft of Appendix D to Bulletin 132-84. We have reviewed the report and it appears consistent with previous reports. However, please note the Department does not employ an economist, or have the availability of other staff to review the costs in a detailed economic analysis.

We have been unable to undertake an in-depth analysis for a number of years, and the public and Legislature deserve a responsible accounting of wildlife expenditures. We would like to work closely with you during this next year in the preparation of your report. We would appreciate the assistance and advice of your staff early in the process of analysis and review of the cost allocations associated with fish and wildlife enhancement.

Robert C. Parnell
for Jack C. Parnell
Director

CONVERSION FACTORS

Quantity	To Convert from Metric Unit	To Customary Unit	Multiply Metric Unit By	To Convert to Metric Unit Multiply Customary Unit By
Length	millimetres (mm)	inches (in)	0.03937	25.4
	centimetres (cm) for snow depth	inches (in)	0.3937	2.54
	metres (m)	feet (ft)	3.2808	0.3048
	kilometres (km)	miles (mi)	0.62139	1.6093
Area	square millimetres (mm ²)	square inches (in ²)	0.00155	645.16
	square metres (m ²)	square feet (ft ²)	10.764	0.092903
	hectares (ha)	acres (ac)	2.4710	0.40469
	square kilometres (km ²)	square miles (mi ²)	0.3861	2.590
Volume	litres (L)	gallons (gal)	0.26417	3.7854
	megalitres	million gallons (10 ⁶ gal)	0.26417	3.7854
	cubic metres (m ³)	cubic feet (ft ³)	35.315	0.028317
	cubic metres (m ³)	cubic yards (yd ³)	1.308	0.76455
	cubic dekametres (dam ³)	acre-feet (ac-ft)	0.8107	1.2335
Flow	cubic metres per second (m ³ /s)	cubic feet per second (ft ³ /s)	35.315	0.028317
	litres per minute (L/min)	gallons per minute (gal/min)	0.26417	3.7854
	litres per day (L/day)	gallons per day (gal/day)	0.26417	3.7854
	megalitres per day (ML/day)	million gallons per day (mgd)	0.26417	3.7854
	cubic dekametres per day (dam ³ /day)	acre-feet per day (ac-ft/day)	0.8107	1.2335
Mass	kilograms (kg)	pounds (lb)	2.2046	0.45359
	megagrams (Mg)	tons (short, 2,000 lb)	1.1023	0.90718
Velocity	metres per second (m/s)	feet per second (ft/s)	3.2808	0.3048
Power	kilowatts (kW)	horsepower (hp)	1.3405	0.746
Pressure	kilopascals (kPa)	pounds per square inch (psi)	0.14505	6.8948
	kilopascals (kPa)	feet head of water	0.33456	2.989
Specific Capacity	litres per minute per metre drawdown	gallons per minute per foot drawdown	0.08052	12.419
Concentration	milligrams per litre (mg/L)	parts per million (ppm)	1.0	1.0
Electrical Conductivity	microsiemens per centimetre (uS/cm)	micromhos per centimetre	1.0	1.0
Temperature	degrees Celsius (°C)	degrees Fahrenheit (°F)	$(1.8 \times ^\circ\text{C}) + 32$ $(^\circ\text{F} - 32)/1.8$	

State of California—Resources Agency
Department of Water Resources
P.O. Box 388
Sacramento
95802

